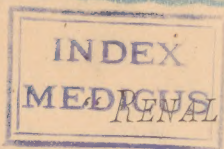


Marvin, (J. B.)



RENAL COLIC,

PARASITIC AND CALCULUS."

A CRITICISM.

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“RENAL COLIC, PARASITIC AND CALCULUS.”

Under the caption “RENAL COLIC, PARASITIC AND CALCULUS,” by JOHN A. LARRABEE, M.D., *Professor of Materia Medica and Therapeutics, and Clinical Lecturer on Diseases of Children in the Hospital College of Medicine, Louisville* (a clinical report), there appeared in *Progress*, for March (received April 1st), a remarkable contribution to medical literature. In the same issue of *Progress*, under the caption “A BREACH OF PROFESSIONAL ETIQUETTE,” there appears the following letter :

“*Editor of Progress*—Dear Sir: Permit me to send you for *Progress* a brief report of a case which, while it is not anomalous is certainly interesting, not only from its rarity in the human family, but also on account of the discussion it has caused in medical circles. I desire to state that I

made a verbal report of this case, and exhibited the specimens before one of our leading medical societies. I reported the case as one of kidney worm, of the *strongylus gigas* family, stating that a competent pathologist had so pronounced it. A member of the society, also a microscopist, stated that he had recently had submitted to him, for examination, some fragmentary specimens, which he thought were from the same patient, but they were much inferior in size and appearance to those which I had presented. He doubted that they were worms, although they looked very much like them. In the specimens which he had examined he had found crystals of hematine, and was inclined to think they were blood casts.

“At the request of several members of the society, I permitted the doubting member to select any one of my specimens for further careful examination, with the understanding that when the society should meet again he would submit his report. In a few days, however, to my astonishment, my attention was called to an account of the case in the *Louisville Courier-Journal*, quo-

ting the society's proceedings. As this society in publishing this report to the public without my knowledge or consent does me some injustice, and, moreover, as I do not seek newspaper notoriety, I send the history of the case to you for the medical profession, where I think it belongs.

"I am very respectfully and truly yours,

"J. A. LARRABEE, M.D."

As I am the microscopist and doubting member referred to in this letter, I am constrained to offer my reasons for criticising Dr. Larrabee's report, and for rejecting as unworthy of credence the claim that the specimens exhibited were kidney worms, of the *strongylus gigas* family. In order that the reader may the more readily understand the points at issue, I reproduce in its entirety Dr. Larrabee's report :

"The history of this case dates back two years, at which time Mr. K., past the turn of life, German, stout frame and robust appearance, applied to me for treatment. He presented a typical gouty diathesis. Like all of this diathesis he possessed a strong constitution, great energy, and is quite indefatigable in his business. As a result of his

excellent social and business standing, the comforts and luxuries of life were at his command.

“I first saw him professionally in an attack of ‘kidney colic,’ or passage of calculi. Full doses of morphia with atropia hypodermically were necessary to relieve his agony, and, the next day, I had the satisfaction of seeing him pass several calculi, rather larger than those ordinarily passed, per urethram. I placed him at once upon antilithic and lithontriptic remedies. He continued to pass calculi and gravel grits for several months, and I have a phial filled with specimens selected. Under continued treatment they became smaller and less frequent, and finally ceased altogether. Then he enjoyed excellent health and had no return of pain. About a year ago, and while he was passing gravel, he called my attention to a peculiar looking substance which had passed in clear urine, looking very much like a small earth-worm, and different from any cast or moulds of blood I had seen before. This I submitted to Prof. D. S. Reynolds for examination, who informed me that it was a worm, and belonged, he

thought, to the strongle family. With the exception of an occasional gouty reminder in the way of dyspepsia, he remained well throughout the year until I was again called to see him, January 11, 1887. I found him reclining, complaining of considerable pain in abdomen, right side, running down into the pelvis. He stated that it did not amount to the agony of the former attacks, and he had noticed that the testicles were not drawn up, and while the pain followed the course of the ureter upon the right side, it was bearable, and I did not give hypodermic injection. Urine abundant and clear, tongue furred with bilious coat, slight headache, and temperature 102° . Ordered hot applications for pain, and calomel jalap powder repeated until purgation followed. On my next visit I found him somewhat easier; ordered some quinine with hyosciamus for rest. On my visit next morning I found he had preserved his urine for me, and, floating in it, were five or six bodies, which had the appearance of fishing worms, exactly of that appearance. He had felt them pass into the urine, and they had remained in the

vessel all night, or until I came. I took them out and washed them with plenty of water under the faucet of the bath-room, placed them in a bottle of water and kept them sometime in my office before submitting them to Professor Reynolds for examination, who reported as follows:

““ *Professor John A. Larrabee, M.D.:* Sir—After careful examination, I have decided that the renal deposits you handed me are worms. That they really belong to the strongle family. I have found two heads practically identical with those figured at page 325 of Volume II., of Eichhorst's Hand-book of Practical Medicine. The worms were torn when I received them, the longest piece measuring five and three-quarter inches in length. The lacerated condition of the parasites has made it exceedingly difficult to classify them. It may be they are not of the strongle species, yet they form a striking resemblance to Leuckart's description, and the almost exact identity of the head with that figured by Eichhorst inclines me to decide that these are really a species of the giant strongle. That form of strongle described by Sir Thomas

Watson, and many other writers, which is said to attain a half inch in diameter and two to three feet in length, is, to be sure, the true giant, and undoubtedly belongs to another species.

“ ‘The samples you presented for my examination were beginning to smell of decomposition, and I added to the fluid containing them some dilute alcohol. They remained in this two weeks, and afterward two weeks in glycerine before examination. The difficulty involved in the attempt to classify these parasites has been greatly increased by their lacerated condition. The heads, however, to my mind, clear up all doubts on the question. A cylinder five and three-quarter inches in length, averaging about one-twelfth of an inch in diameter, certainly could not be of the nature of a renal cast, as there are no tubules of sufficient size and length in which such casts might form. In the ureter it would be impossible to form such casts without having both the characteristic ragged ends of a blood cast, and the fresh blood-cell contents. Tube casts of this description readily break down into granular matter under the action

of dilute alcohol, whilst the worms have not been visibly affected by it. The glycerine has made no change, the worms still retaining their deep red color.

“ ‘ I submit one of the heads for your own study. Very respectfully,

“ ‘ DUDLEY S. REYNOLDS.

“ ‘ February 25, 1887.’

“ ‘ I am sorry that I did not preserve the urine in which they were floating, as it might have shown some eggs. I have seen many bloody casts following pyelitis and kidney calculi, but certainly nothing resembling these. My patient reminded me that after the other attack I had given him five drops of turpentine on sugar several times a day, and, he thought, with advantage, and I again ordered it for him. On my next visit there was some urine tinted with fresh blood, and some small coagula, and fragments, but nothing like the specimen which I have preserved. There never was any strangury in the case, or bloody urine after taking the turpentine, and it was suspended on the second day after commencement. In this attack he passed no calculi, and I ceased to visit him on Sunday, January 23d.

“ I have no remarks to make, but simply furnish the clinical history. I may be permitted, however, to cite an exactly similar case in Eichhorst, where the same kind of worm was passed with several calculi. Also that this most distinguished authority adds to his commentary these words: ‘These *worms* are sometimes mistaken for *blood-clots*.’ ”

At a meeting of the Louisville Medico-Chirurgical Society, held at my residence, February 11, 1887, Dr. Larrabee reported this case, and exhibited several red, worm-like bodies, hermetically sealed in a small (1 oz?) bottle, which he stated were specimens of *strongylus gigas*. Acknowledging that the parasite was rare, he claimed to have met with it twice in this patient, and once in another. He stated that there were five or six worms in the bottle, that he could readily make out the sexual organs. He refused to remove the specimens from the bottle, and place them on a saucer, so they could be examined by the members of the society. He also exhibited several calculi, stating he intended to saw them open, and see if the ova of the

parasite was not the nucleus of the calculus. He suggested that the patient had acquired the parasite by eating rare hog meat, probably sausage—that the ova of the worm penetrated the blood vessels, and thus gained entrance into the pelvis of the kidneys, where it developed, and gave rise to symptoms of renal colic. When called upon to discuss the subject, I did so, as courteously as I knew how, quoted from Cobbold, Ziemssen, and other standard authorities, as to the extreme rarity of the *strongylus gigas* in the human subject, also as to its characteristics; though I could not say what the red, wormlike bodies exhibited by Dr. Larrabee really were, without an examination, yet I doubted if they were worms of any kind, but thought they were simply blood casts, from the ureter, caused by the passage of the calculi. I also stated that I had examined for Dr. Leachman a number of wormlike bodies passed with the urine by the same patient referred to by Dr. Larrabee, though these bodies looked like worms, yet when examined they presented no appearance of organization, and were proved both by chemical and micro-

scopical tests to be only blood coagula. After the adjournment of the society, at the urgent request of several members, Dr. Larrabee consented to leave with me one of his specimens for examination; he finally concluded to leave the bottle. The next morning, before I had had an opportunity to examine them, he called at my office, with a note from Dr. Reynolds, in which he stated the specimens were not blood clots, but were really worms, and that he would like to examine them further before identifying the species. I removed the specimens from the bottle, placing them on a saucer, and called Dr. Larrabee's attention to the absence of all transverse striations, and further, to the peculiar appearance of several of the bodies, viz., tapering at both extremities to a slim, whitish thread, then enlarging again, resembling somewhat several links of stuffed sausage. I also read to him from a number of standard authors a description of the *strongylus gigas*. When I had examined the specimen left by Dr. Larrabee, I telephoned him that it was but a blood clot, and not a worm of any species. At the next meeting of the society,

I telephoned him again, asking him if I should bring my microscope and the specimens, and exhibit them to the society. He replied that he would not be present, and he has not attended a meeting of the society since.

Concerning Dr. Larrabee's grievance against the society, that has been settled. Suffice it to say, concerning the anonymous squib in the *Courier-Journal*, that seemed to give Dr. Larrabee so much offense, he was promptly and positively informed that I had no connection, directly or indirectly, with the matter. Neither did I know then, nor at the present time, who inspired the article.

The specimen left by Dr. Larrabee did not "smell of decomposition;" it was red in color, $2\frac{3}{4}$ inches long, one extremity was bluntly pointed, the other more tapering, terminating in a slender, white filament, $\frac{1}{4}$ -inch long. There was no appearance of markings on the surface, nor of an integument; the thickest reddish portion was friable, easily breaking down when pressed with a needle; no evidence of organization whatever could be made out when examined with a magnifying glass. A

particle, when mixed with glycerine, and spread out on a slide, and examined under the microscope, revealed red blood cells, some perfect, others distorted, and with their cell contents discharged, with fine filaments of fibrin. A speck, when heated with glacial acetic acid and allowed to cool, revealed beautiful hæmin crystals. Dr. Kastenbine, who, with Drs. J. A. Ouchterlony, Cottell, Wiedner, and others, called at my office, and examined this specimen, all agreeing that it was only a fibrinous clot—applied the guaiacum and peroxide of hydrogen test to a mere trace picked from the specimen, with the immediate and positive response characteristic of blood.

After the publication of Dr. Larrabee's "Clinical Report," I wrote him as follows:

"*Dear Sir:* I notice from the March number of *Progress* that you adhere to your original statement, and back it up by a letter from Dr. D. S. Reynolds, that the red, wormlike bodies you exhibited to the Medico-Chirurgical Society, February 11th, are really 'a species of strongle.' I am equally confident that they are only blood clots. Now, in the interest of truth and science, I

appeal to you to submit your specimen to one or more competent microscopists, here or elsewhere, or better, submit them to Dr. Leidy, of the University of Pennsylvania, who is, probably, the most competent helminthologist in America. He will be entirely free from any local prejudice or bias. I will be governed entirely by what he says. I take it you are as much interested in a candid and truthful solution of the matter as I am."

In a few days I received the following :

"*Dear Doctor:* Your letter before me. Really, I see nothing between you and I personally, and I have no disposition to ask a judgment upon matters already settled.

"Very truly yours,

"J. A. LARRABEE."

I know that a proposition was made on different occasions, by mutual friends, to Dr. Reynolds to submit the specimens to an expert for examination and final decision. These propositions were always rejected.

Certainly my proposal for Dr. Larrabee to submit his specimens to any expert was most fair. Failing in this endeavor, I sent the specimen Dr. Larrabee gave me to Professor

Joseph Leidy, of the University of Pennsylvania, asking him to examine it, and inform me if it was a species of strongyle, or a worm of any species, or a fibrinous clot. In reply, I had the following card :

“Dear Dr. Marvin : In reply to your letter in regard to the accompanying specimen, it has no trace of the organization of a worm, but appears to be nothing but a fibrinous clot. Even the young embryos of strongylus are so well marked that I think one could not well make the mistake of confounding this object with them.

“Respectfully, I remain at your service,

“JOSEPH LEIDY.”

Dr. Larrabee's "Clinical Report" of this case, while not anomalous, is certainly interesting as furnishing an illustration—fortunately rare—of what slender facts may form the basis of alleged discoveries. The facts upon which this report is based are, first, the passage per urethram of a number of red, wormlike bodies; second, the statement that a "competent pathologist" had pronounced these bodies, worms of the "strongylus gigas family." It by no means follows that all red, wormlike bodies passed

per urethram are worms ; on the contrary, on account of the extreme rarity of the passage of worms per urethram, wormlike bodies found in the urine or urethra are to be considered as blood clots, until a careful examination has revealed their true character. The "competent pathologist" referred to proves to be Dr. Dudley S. Reynolds. His report is a curious mixture of positive assertions and doubtful misgivings. The main point in it is that Dr. Reynolds claims to have found "two heads practically identical with those figured at page 325, Vol. II., of Eichhorst's Handbook of ' Practical Medicine.' " Hence he concludes these bodies are worms, and "that they really belong to the strongle family," but the worms being torn when he received them, the longest piece measuring five and three-quarter inches, he "finds it difficult to classify them." The writer has some misgivings; he seems to waver in his belief. "It may be that they are not of the strongle species, yet they form a striking resemblance to Leuckart's description," and the remembrance of those two heads "inclines me to decide that these are really a species of the giant strongle." He has probably heard

that at the meeting of the Society, two weeks prior to the date of his report, in discussing Dr. Larrabee's verbal report, the large size of the *strongylus gigas* was mentioned, but he seems equal to the emergency, and candidly acknowledges "that form of strongle described by Sir Thomas Watson, and many other writers, which is said to attain a half inch in diameter and two or three feet in length, is, to be sure, the true giant, and undoubtedly belongs to another species."

The casual reader might overlook the modest claim of the writer, to have discovered a new and hitherto unknown "species of the giant strongle," not the true giant, to be sure, for other writers have described this form of strongle, but either a false giant or a dwarf. There is not a syllable in this report about the external markings, or internal structure of these so-called worms. Surely a fragment of any worm five and three-fourths inches long, would show some of the characteristics of such an organism. "The heads, however, to my mind, clear up all doubts on the question." Figures 2 and 4 are reproduced from this report. Figures 1 and 3 are reproduced from those referred

to in Eichhorst. If any one, who can see, will say that these heads are "practically,"

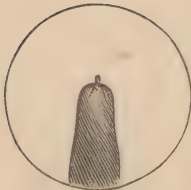


Fig. 2.

A head adhering to torn fragments of the body. This head is magnified six diameters.



Fig. 4.

A portion of the parasite with head. The whole when straightened out measuring $5\frac{3}{4}$ inches long, exactly the natural size and form.

[*Progress.*]

or "almost, exactly identical," they certainly could be justly accused of allowing more latitude to the phrase "practically identi-



Fig. 1.
Enlarged head with lateral
papillæ.



Fig. 3.
Strongylus Gigas.

cal," than is customary. The strongylus gigas possess well marked digestive and sexual organs. Cobbold, "Parasites," p. 208, quoting from Leuckart, gives the following description of the worm. "The body of

the adult worm is cylindrical, more or less red in color, and somewhat thicker behind than in front. The head is broadly obtuse, the mouth being supplied with six small wart-like papillæ, two of which correspond with the commencement of the two lateral lines of the body. These lines are also distinguishable from other six longitudinal lines, traversing the body from end to end, by the presence of very minute papillæ, which are less closely arranged toward the tail. The tail of the male shows a simple, thick, cup-shaped bursa, which is destitute of rays, and partly conceals the simple spiculum. The tail of the female is blunt and pierced by the centrally placed anal opening. The vulva is situated near the head in the ventral line." Our entire recorded experience of the existence of this worm in the human subject is represented by the statement of Davaine, that from the year 1674 to 1877, the date of his publication, he had collected seven cases, which he regards as "probable," and eight as "very uncertain." See Dickinson *Renal and Urinary Affections* (Woods Library, 1885), page 245. Of these seven "probable" cases the worms had

been passed by the urethra in two instances; once they had escaped by lumbar fistulæ and the urethra, and in four cases they were found in the kidney after death. So very rare is this worm in the human subject that no recent author claims that more than seven "probable" cases are recorded in the annals of medicine. No authentic case has been reported in recent years. Most English authorities admit as genuine only one, the specimen in the museum of the Royal College of Surgeons.

Kuchenmeister, *Manual of Parasites*, vol. 1, page 379, says "that if this worm is to be reckoned among the entozoa found in man, we must undoubtedly be astonished that it has remained *almost* entirely unobserved since pathological anatomy has been raised to the rank of a science." In animals, also, it appears to be becoming more and more rare, and it is not difficult to suppose that, in a short time, we may have to do only with a historical and extinct species of worm."

Dr. Reynolds argues that "a cylinder five and three-quarter inches in length, averaging about one-twelfth of an inch in diameter, certainly could not be of the nature of

a renal cast, as there are no tubules of sufficient size and length in which such casts might form. In the ureter it would be impossible to form such casts without having both the characteristic ragged ends of a blood cast, and the fresh blood-cell contents. Tube casts of this description readily break down into granular matter under the action of dilute alcohol, whilst the worms have not been visibly affected by it. The glycerine has made no change, the worms still retaining their deep red color."

Beale, Urinary and Renal Derangements, page 118, says: "Blood clots assume various forms, and if they have been retained for many days in the bladder, undergo great changes in color and form, so that there may be considerable difficulty in identifying them. They have been mistaken for portions of mucus membrane, entozoa, and other things. Clots of extraordinary forms and curious shapes are often passed by patients suffering from renal calculus."

"Long clots of blood from the urethra or lumbrici, which have been discharged into the chamber vessel containing urine have sometimes been hastily taken for a

“gigas,” but a very slight examination is sufficient to correct the error.” Ralfe, *Kidney Diseases*, page 378 : “Blood clots have, several times, been mistaken for it.” Ebstein, in *Ziemssen, Cyclopædia*, vol. xv., page 757.

Kuchenmeister, page 379, mentions a case observed by Dr. Schenten, and repeatedly referred to in the “*Deutscher Klinik*, 1855,” which was described with much certainty as a strongylus of the kidney, which, on further investigation proved to be “only a blood coagulum from the tubuli of the kidney.” The same author, page 377, refers to a number of cases where fibrinous coagula were mistaken for this worm. In one case it was claimed that about fifty of these worms, six to eight inches long, and of the thickness of the stem of a feather, were passed in two months and a half, by a man suffering with bloody urine ; these worms proved to be only coagulated fibrin.

In another instance, 800–1000 of these structures were evacuated within a year. This author claims that, “since the knowledge of the fibrinous casts in the urine of patients suffering with Bright’s disease of the

kidneys, one source of the errors into which our forefathers fell, in stating that they had seen worms pass off with the urine, is certainly abolished." No one of any experience will accept the statement that fibrinous coagula, either from the renal tubules or the ureters, "readily break down into granular matter under the action of dilute alcohol."

All authors agree in the statement that the reddish color of the *strongylus gigas* is due to the bloody fluid in which it is usually found; in alcohol the color bleaches, and the worm becomes of a leaden, grayish blue color.

Now, a word in regard to the closing paragraph of Dr. Larrabee's report, no "exactly similar case" is reported in Eichhorst. This author, Eichhorst, Handbook of Practical Medicine, Vol. II. (Wood's Library for 1886), page 325, devotes just nine lines to this subject, as follows: "*Strongylus gigas* is a round worm. It is apt to be mistaken for clots of blood and ascarides; it is observed most frequently in the kidney of the dog. The symptoms are those of pyelitis (renal pain, dysuria, pyuria, hæmaturia), because the parasite irritates the mucous

membrane of the renal pelvis. The diagnosis is possible if the ova are detected in the urine (*vide* Fig. 94). The parasite resembles an earth-worm or ascaris, but is distinguished from the latter by its red color, and by the six papillæ around the mouth. In dogs the male is 3.1 cm. long, the female 6.4 cm. The ova are elliptical, brownish, with a thick shell, and round depressions on the surface."

In regard to the patient, who is the innocent cause of all this discussion, after passing into Dr. Leachman's hands, he continued to pass occasional clots, the urine always containing blood and some pus, but no ova of any kind. The pain in right side, and over region of the kidney, continued with great intensity for about two weeks, when a uric acid calculus, measuring $\frac{3}{16}$ -inch by $\frac{1}{4}$ -inch was passed. Under the use of alkalies and mineral waters, he is free of pain, and apparently enjoying good health—has passed recently several small calculi without pain.

This case has caused a great deal of discussion among the laity as well as the medical profession of this city. When it was

reported to the Medical Society, I criticised it in a strictly legitimate and scientific manner. Now, that the case "belongs to the medical profession," as Dr. Larrabee says, I have attempted to write in the same manner. On account of the claims of the authors, the case is of extreme interest, and calls for careful and accurate investigation. Desiring simply the truth in this matter, I have not written in a carping, captious spirit, nor with any desire to provoke personalities or controversies.

LOUISVILLE:

